

# CLINICAL RESULTS OF PST (PULSED SIGNAL THERAPY) ON ANTERIOR KNEE PAIN WITH PATELLAR CHONDROPATHY: A RANDOMIZED PROSPECTIVE STUDY

## Autores

Marco Kawamura Demange(1), Ph.D. Riccardo Gomes Gobbi(1) Ph.D. Adriana Lúcia Pastore e Silva, physiotherapist(1), M.S. José Ricardo Pécora, PhD(1). Gilberto Luis Camanho, Ph.D(1).

## Afiliação

(1) Instituto de Ortopedia e Traumatologia do Hospital das Clínicas da Universidade de São Paulo (IOT HC FMUSP)

**Introduction:** Pulsed Signal Therapy has been used relatively empirically to treat various diseases, including arthrosis of various joints, spine pain syndromes, tendinopathy, sports injuries and even as an adjunct in rheumatic diseases. The physical effect of electromagnetic fields on different tissues has been a focus of research in some studies, with cartilaginous tissue being the most studied. This treatment has been shown to increase proteoglycan and collagen synthesis in vitro. **Objective:** To evaluate the effect of pulsed signal therapy (PST) on patellofemoral pain syndrome associated with patellar chondropathy. **Methods:** A total of 25 patients (41 knees) who had patellar chondropathy and patellofemoral pain syndrome were prospectively included in the study. After randomization, 17 knees received placebo treatment and 24 knees were treated with 9 PST applications. The PST group was analyzed by ascertaining the Kujala score before and 3, 6 and 12 months after treatment. In the placebo group, the Kujala score was ascertained before and 3 months after the placebo treatment. The participants were then given effective PST treatment, and new scores were taken 3, 6 and 12 months after treatment. All of the interventions and analyses up to 3 months were double-blind. After the PST treatment of the initial placebo group, it was not possible to maintain blinding. The degree of articular cartilage damage, patellar height and trochlear dysplasia were analyzed as confounding factors. CAPPesp 0253/11. **Results:** By the third month, the PST group exhibited a mean improvement of 9.61 ( $\pm 7.5$ ) Kujala points, compared to 0.53 ( $\pm 1.8$ ) points in the placebo group, representing a statistically significant difference ( $p < 0.05$ ). **Conclusion:** PST therapy in patients with patellar chondropathy and patellofemoral pain syndrome was effective in improving the Kujala functional score compared to placebo 3 months after treatment. Moreover, the improvement was maintained and progressive for up to 12 months of follow-up.